

CLAIMS

1. A process for distilling paraffinic hydrocarbons, which process comprises

feeding a Fischer-Tropsch derived paraffinic hydrocarbon feedstock comprising heavy paraffinic hydrocarbons and, optionally, light and/or medium paraffinic hydrocarbons, into a distillation column;

operating the distillation column to produce usable wax products; and

withdrawing from the distillation column an overhead stream, a bottom stream comprising usable wax products, and at least one side stream comprising usable wax products.

2. A process according to Claim 1, wherein the Fischer-Tropsch derived paraffinic hydrocarbon feedstock comprises, in addition to the heavy paraffinic hydrocarbons and which comprise hydrocarbon molecules with carbon numbers or carbon atoms in the range  $C_{15}$  and greater, also medium paraffinic hydrocarbons comprising hydrocarbon molecules with carbon numbers in the range  $C_{10}$  to  $C_{80}$ , and light paraffinic hydrocarbons comprising hydrocarbon molecules with carbon numbers in the range  $C_{35}$  and less.

3. A process according to Claim 2, wherein the operation of the distillation column is such that it produces, as the usable wax products, hard wax comprising hydrocarbon molecules with carbon numbers in the range  $C_{30}$  and greater, and medium wax comprising hydrocarbon molecules with carbon numbers in the range  $C_{20}$  to  $C_{38}$ , with the distillation column also producing paraffins comprising hydrocarbon molecules with carbon numbers in the range  $C_{23}$  and less.

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4. A process according to ~~any one of Claims 1 to 3 inclusive~~, wherein the distillation column is operated under vacuum.

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5. A process according to Claim 4, wherein the distillation column has a sump, with the distillation column being operated such that the pressure in the column is from 1 to 12 mbar(a), and the temperature in the column sump is from 190°C to 350°C, and with the bottom stream being withdrawn from the sump.

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6. A process according to Claim 5, which includes cooling the bottom stream, and recycling up to 10% by volume of the bottom stream to the sump, as a sump quench.

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7. A process according to ~~any one of Claim 1 to 6 inclusive~~, which includes feeding stripping steam into the distillation column, to adjust the relative volatility of components in the feedstock.

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8. A process according to ~~any one of Claims 1 to 7 inclusive~~, wherein the distillation column contains structured packing as a distillation medium, with the structured packing having a surface area (in m<sup>2</sup>) to volume (in m<sup>3</sup>) ratio of 125:1 to 750:1.

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9. A process according to Claim 8, wherein a plurality of the side streams are provided, with the distillation column including a draw point or zone for each of the side streams as well as for the overhead and bottom streams, and with a plurality of distillation stages being provided in the distillation column, with each stage being located between the draw points or zones for two of the streams, and with each stage comprising the structured packing.

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10. A process according to Claim 79, wherein the structured packings of the different stages have the same surface area to volume ratios.

11. A process according to Claim 9, wherein the structured packings of at least some of the stages have different surface area to volume ratios.

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